



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/488,141	01/20/2000	Mirjana Popovic	SMC1P003	4005

22434 7590 07/09/2003

BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778

EXAMINER

SINGH, RAMNANDAN P

ART UNIT	PAPER NUMBER
----------	--------------

2644

DATE MAILED: 07/09/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

A

Office Action Summary

Application No.

09/488,141

Applicant(s)

POPOVIC ET AL.

Examiner

Dr. Ramnandan Singh

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-25 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 6-10, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - i) on page 5, line, the term “**audile** detracting”. The term “audile” is incorrect. Replace “audile” with “audibly”.
 - ii) on page 9, line 2, the term “eight **tines**”. Replace the term “eight **tines**” with the term “eight **times**”.

Appropriate correction is required.

Claim Objections

2. Claims 6, 11 and 19 are objected to because of the following informalities:

In claims 6 and 19, the variables Y and Y_0 as used in the equation are not defined.

Claim 11 recites a limitation “having a zero **valve**” on page 13, line 13.

Replace the term “a zero **valve**” with the term “a zero **value**”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Vary [US 4,623,980].

Regarding claim 1, Vary teaches a method of canceling echo in speech frequency electrical signals (i.e. communication systems) comprising the steps of:

applying a monitoring signal to a discrete Fourier transform to produce **spectral** (i.e. an attribute) partial signals V_v ; and processing the spectral partial signals by any combination of an adaptive level control and echo cancellation to produce W_v suitable for echo cancellation and signal masking [col. 7, line 41 to col. 8, line 27; col. 8, lines 42-48; col. 2, lines 19-29; col. 2, line 59 to col. 3, line 9; col. 6, line 45 to col. 7, line 9].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vary as applied to claim 1 above, and further in view of McCaslin et al [US 5,764,753].

Regarding claims 2-5, Vary does not teach expressly estimating the power of a signal utilizing an IIR filter.

McCaslin et al teaches using power estimation circuits 60 and 62 which utilize an **infinite-impulse response** (IIR) filter with a slow pole and a fast pole [Figs. 2, 22; col. 7, lines 36-60; col. 3, line 59 to col. 4, line 4; col. 13, lines 28-37; col. 25, lines 18-60].

Vary and McCaslin et al are analogous art because they are from a similar problem solving area, viz. , echo suppression in communications.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the power estimators of McCaslin et al to Vary so as to cancel echoes and provide an echo-free communications [McCaslin et al; col. 1, 35-41].

7. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Vary and McCaslin et al as applied to claim 2 above, and further in view of Leach [US 6,128,725].

Regarding claim 11, the combination of Vary and McCaslin et al does not teach expressly mask generating circuitry to apply a mask to cancel echoes.

Leach teaches least significant bit (LSB) mask generation circuitry 610 and most significant bit (MSB) mask generation circuitry 620 to apply masking for echo cancellation [Fig. 9; col. 6, line 19 to col. 7, line 54; col. 8, lines 7-33; col. 3, lines 36-44].

Vary, McCaslin et al and Leach are analogous art because they are from a similar problem solving area, viz. , echo suppression in communications.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the mask generator of Leach to the echo canceller system of McCaslin et al and Vary to cancel echoes [Leach; col. 1, col. 3, lines 39-44] and provide an echo-free communications.

Allowable Subject Matter

8. Claims 16-25 are allowed.
9. Claims 6-10 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(i) Kato et al [US 5,729,725] teaches a mask data generator for generating a mask data of N bits; and (ii) Tulpule et al [US 4,139,899] teaches a mask generator.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Ramnandan Singh whose telephone number is (703)308-6270. The examiner can normally be reached on M-F(8:00-4:30).

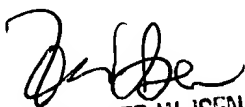
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester Isen can be reached on (703)-305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-0377.

Dr. Ramnandan Singh
Examiner
Art Unit 2644



June 30, 2003



FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2644